

Where:

$E_{CO_2}$  = Annual  $CO_2$  mass emissions from consumption of carbonates (metric tons).

$M_k$  = Annual mass of input carbonate type k (tons).

$EF_k$  = Emission factor for the carbonate type k, as specified in Table U-1 of this subpart (metric tons  $CO_2$ /metric ton carbonate input).

$M_j$  = Annual mass of output carbonate type j (tons).

$EF_j$  = Emission factor for the output carbonate type j, as specified in Table U-1 of this subpart (metric tons  $CO_2$ /metric ton carbonate input).

m = Number of input carbonate types.

n = Number of output carbonate types.

#### § 98.214 Monitoring and QA/QC requirements.

(a) The annual mass of carbonate consumed (for Equation U-1 of this subpart) or carbonate inputs (for Equation U-2 of this subpart) must be determined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or weigh belt feeders.

(b) The annual mass of carbonate outputs (for Equation U-2 of this subpart) must be determined annually from monthly measurements using the same plant instruments used for accounting purposes including purchase records or direct measurement, such as weigh hoppers or belt weigh feeders.

(c) If you follow the procedures of § 98.213(a), as an alternative to assuming a calcination fraction of 1.0, you can determine on an annual basis the calcination fraction for each carbonate consumed based on sampling and chemical analysis using a suitable method such as using an x-ray fluorescence standard method or other enhanced industry consensus standard method published by an industry consensus standard organization (e.g., ASTM, ASME, etc.).

#### § 98.215 Procedures for estimating missing data.

(a) A complete record of all measured parameters used in the GHG emissions calculations is required. Therefore, whenever a quality-assured value of a required parameter is unavailable, a substitute data value for the missing parameter shall be used in the calculations as specified in paragraph (b) of this section. You must document and keep records of the procedures used for all such estimates.

(b) For each missing value of monthly carbonate consumed, monthly carbonate output, or monthly carbonate input, the substitute data value must be the best available estimate based on the all available process data or data used for accounting purposes.

#### § 98.216 Data reporting requirements.

In addition to the information required by § 98.3(c), each annual report must contain the information specified in paragraphs (a) through (g) of this section at the facility level, as applicable.

(a) Annual  $CO_2$  emissions from miscellaneous carbonate use (metric tons).

(b) Annual mass of each carbonate type consumed (tons).

(c) Measurement method used to determine the mass of carbonate.

(d) Method used to calculate emissions.

(e) If you followed the calculation method of § 98.213(b)(1)(i), you must report the information in paragraphs (e)(1) through (e)(3) of this section.

(1) Annual carbonate consumption by carbonate type (tons).

(2) Annual calcination fractions used in calculations.

(3) If you determined the calcination fraction, indicate which standard method was used.

(f) If you followed the calculation method of § 98.213(b)(1)(ii), you must report the information in paragraphs (f)(1) and (f)(2) of this section.

(1) Annual carbonate input by carbonate type (tons).

(2) Annual carbonate output by carbonate type (tons).

(g) Number of times in the reporting year that missing data procedures were followed to measure carbonate consumption, carbonate input or carbonate output (months).

#### § 98.217 Records that must be retained.

In addition to the records required by § 98.3(g), you must retain the records specified in paragraphs (a) through (d) of this section:

**§ 98.218**

- (a) Monthly carbonate consumption (by carbonate type in tons).
- (b) You must document the procedures used to ensure the accuracy of the monthly measurements of carbonate consumption, carbonate input or carbonate output including, but not limited to, calibration of weighing equipment and other measurement devices.
- (c) Records of all analyses conducted to meet the requirements of this rule.
- (d) Records of all calculations conducted.

**§ 98.218 Definitions.**

All terms used in this subpart have the same meaning given in the Clean Air Act and subpart A of this part.

TABLE U-1 TO SUBPART U OF PART 98—  
CO<sub>2</sub> EMISSION FACTORS FOR COMMON  
CARBONATES

Mineral name—carbonate	CO <sub>2</sub> emission factor (tons CO <sub>2</sub> /ton carbonate)
Limestone—CaCO <sub>3</sub> .....	0.43971
Magnesite—MgCO <sub>3</sub> .....	0.52197
Dolomite—CaMg(CO <sub>3</sub> ) <sub>2</sub> .....	0.47732
Siderite—FeCO <sub>3</sub> .....	0.37987
Ankerite—Ca(Fe, Mg, Mn)(CO <sub>3</sub> ) <sub>2</sub> .....	0.47572
Rhodochrosite—MnCO <sub>3</sub> .....	0.38286
Sodium Carbonate/Soda Ash—Na <sub>2</sub> CO <sub>3</sub> .....	0.41492

**Subpart V—Nitric Acid Production**

**§ 98.220 Definition of source category.**

A nitric acid production facility uses one or more trains to produce weak nitric acid (30 to 70 percent in strength). A nitric acid train produces weak nitric acid through the catalytic oxidation of ammonia.

**§ 98.221 Reporting threshold.**

You must report GHG emissions under this subpart if your facility contains a nitric acid train and the facility meets the requirements of either § 98.2(a)(1) or (a)(2).

**§ 98.222 GHGs to report.**

- (a) You must report N<sub>2</sub>O process emissions from each nitric acid train as required by this subpart.
- (b) You must report under subpart C of this part (General Stationary Fuel Combustion Sources) the emissions of

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CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from each stationary combustion unit by following the requirements of subpart C.

[74 FR 56374, Oct. 30, 2009, as amended at 78 FR 71959, Nov. 29, 2013]

**§ 98.223 Calculating GHG emissions.**

- (a) You must determine annual N<sub>2</sub>O process emissions from each nitric acid train according to paragraphs (a)(1) or (a)(2) of this section.

(1) Use a site-specific emission factor and production data according to paragraphs (b) through (i) of this section.

(2) Request Administrator approval for an alternative method of determining N<sub>2</sub>O emissions according to paragraphs (a)(2)(i) and (a)(2)(ii) of this section.

(i) You must submit the request within 45 days following promulgation of this subpart or within the first 30 days of each subsequent reporting year.

(ii) If the Administrator does not approve your requested alternative method within 150 days of the end of the reporting year, you must determine the N<sub>2</sub>O emissions for the current reporting period using the procedures specified in paragraph (a)(1) of this section.

(b) You must conduct an annual performance test for each nitric acid train according to paragraphs (b)(1) through (3) of this section.

(1) You must conduct the performance test at the absorber tail gas vent, referred to as the test point, for each nitric acid train according to § 98.224(b) through (f). If multiple nitric acid trains exhaust to a common abatement technology and/or emission point, you must sample each process in the ducts before the emissions are combined, sample each process when only one process is operating, or sample the combined emissions when multiple processes are operating and base the site-specific emission factor on the combined production rate of the multiple nitric acid trains.

(2) You must conduct the performance test under normal process operating conditions.

(3) You must measure the production rate during the performance test and calculate the production rate for the test period in tons (100 percent acid basis) per hour.